Systems & Network Training

SDH Foundation

A 2 day training course

⭐ Description

Our SDH training course is designed for those with a basic knowledge of the principles of telecommunication digital transmission techniques. An overview of the existing transmission hierarchies and their limitations is provided with an introduction to the Synchronous Digital Hierarchy (SDH). The advantages of SDH are explained fully.

👍 Key outcomes

By the end of the course delegates will be able to:

✔ Identify the major limitations of the PDH network.

✔ Outline the advantages of using the SDH.

✔ Illustrate the various SDH equipment and network topologies.

✔ Describe the principles of the SDH multiplexing structure.

📽 Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning.

☰ Details

Who will benefit?
Anyone working with SDH.

Prerequisites
It should be noted that this course will assume some basic telecommunication transmission knowledge. Introduction to Telecommunications course.

Duration: 2 days

Customer rating: ⭐⭐⭐⭐⭐

Generic training	Small class sizes	Hands On training	Our courseware	Customise your course
Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".	We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.	The majority of our courses use hands on sessions to reinforce the theory.	We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.	Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.
"Friendly environment with expert teaching that teaches the why before the how." G.C. Fasthosts	*"Excellent course. The small class size was a great benefit..."* M.B. IBM	*"Not many courses have practice added to it. Normally just the theoretical stuff is covered."* J.W. Vodafone	*"Comprehensive materials that made the course easy to follow and will be used as a reference point."* V.B. Rockwell Collins	*"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."* S.R. Qinetiq

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Course content

Introduction to SDH
Timing and synchronisation of digital signals, the plesiochronous digital hierarchy (PDH), the synchronous digital hierarchy (SDH), service protection with SDH

SDH Multiplexing Techniques
The multiplexing principles of SDH, mapping and aligning a 2Mbit/s tributary into a TU-12, aligning the VC-12 in a TU-12, multiplexing TU-12s into a TUG-2, multiplexing TUG-2s into a TUG-3, multiplexing TUG-3s into a VC-4, the VC-4 path overhead, the STM-1 frame, the AU-4 pointer, the STM-1 section overheads, multiplexer section protection, transmission at rates higher than STM-1, concatenation line transmission functions in SDH

SONET Multiplexing Techniques
Mapping a DS1 tributary into a virtual tributary, aligning the VT-SPE into a VT frame, mapping the VTGs into a STS-1 SPE, the STS-1 synchronous payload envelope, the STS-1 frame
SONET network sections and lines transmissions at higher rates than STS-1

SDH Functions and Facilities
SDH network topologies, structure of SDH equipment, synchronisation of SDH networks, protection switching in SDH networks, SDH alarm structure, SDH performance monitoring, testing of SDH, equipment and systems, network management and SDH, asynchronous transfer mode (ATM), future services and technologies

OSI Telecommunications Network Management
Definition of network management, managing telecom equipment, the managed object library, the management information base, the telecommunications management network (TMN), the Q3 protocol

Step back

Telecommunications Introduction → SDH Foundation

Step forward

SDH Foundation → Essential DWDM

SDH Foundation → Intro to data communications